Split - 2 FOR DSI 9711

Work Order ID 124143

September-11-14 11:56:03 AM

124143

Item ID: D3488-042 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Blade Fitting RH

Start Date: 9/10/14 **Start Qty:** ~~8.00~~ 1.0 *8*

Required Date: 9/10/14 **Req'd Qty:** ~~8.00~~ *8*

Reference: **Cust Item ID:** **Customer:**

Approvals: **Process Plan:** MCJ **Date:** 14-09-12 **Tooling:** _____ **Date:** _____ **Run Start** *NR1*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr / **Revision Nbr**: D3488 Rev B; DSK 101 REV D									
100	DOOSAN LATHE	0.00			DAS 40 ~~9-89~~	8	0		DAS 25 ~~9-89~~
100 Doosan Doosan Lathe	**Memo** 1-Turn as per Dwg DSK 101 & Folio FA625 2-Deburr	0.00			14/10/15				
110	QC2- Inspect parts off machine FAI/FAIB	0.00			DAS 40 ~~9-89~~	8	0		DAS 25 ~~9-89~~
110 QC Quality Control	**Memo**	0.00			14/10/15				

Work Order ID 124143

September-11-14 11:56:03 AM

124143

Item ID: D3488-042 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Blade Fitting RH

Start Date: 9/10/14 **Start Qty:** 8.00 *8*

Required Date: 9/10/14 **Req'd Qty:** 8.00 *8*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
120	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	**Memo**	0.00							
HAAS CNC vertical machine #1	1-Machine as per Folio FA627 & Dwg D34882-Deburr Make and insert sleeve		14/11/4			~~8~~ 1	0		D.C.L./D.e 14/11/10
130	QC2- Inspect parts off machine FAI/FAIB	0.00							
130									
QC	**Memo**	0.00							
Quality Control			14/11/4			~~8~~ 1	0		D.C.L./D.e 14/10/10
140	QC8- Inspect parts - second check	0.00							DAS 37 9-88
140									
QC	**Memo**	0.00				1	0		14.11.11
Quality Control	(see attached e-mail)								

Item ID: D3488-042 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Blade Fitting RH

Start Date: 9/10/14 **Start Qty:** 8.00 *8*
Required Date: 9/10/14 **Req'd Qty:** 8.00 *8*
Reference:

Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Chemical Conversion Coat per QSI005 4.1	0.00							
150 HandFinish Hand Finishing	**Memo**	0.00				1	0	14-11-13.	DAS 34 9-89
160	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
160 Powdercoat Powder Coating	M124808. **Memo** START TIME: 11:40. FINISH TIME: 12:10.	0.00				1	0	14-11-13.	DAS 34 9-89
170	QC3- Inspect Part Finish	0.00							
170 QC Quality Control	**Memo**	0.00				IRH	0	14 Nov 13	DAS 15 9-89

OVEN TEMPERATURE: 200°

Work Order ID 124143

September-11-14 11:56:03 AM

124143

Item ID: D3488-042 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Blade Fitting RH

Start Date: 9/10/14 **Start Qty:** 8.00 *8* **Cust Item ID:**

Required Date: 9/10/14 **Req'd Qty:** 8.00 *8* **Customer:**

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** *NR1*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	HandFinishing	0.00							
180 HandFinish						12H	4	44	14 11 13
Hand Finishing	**Memo** Install Inserts as per Dwg D3488	0.00							
190	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
190 QC						1			
Quality Control	**Memo**	0.00							
									NOV 13 2014
200	Identify as per dwg & Stock Location:	0.00							
200 Packaging									
Packaging	**Memo**	0.00	Shie			DAS 86 9-89	NOV 13 2014		

Item ID: D3488-042
Revision ID:
Item Name: Blade Fitting RH
Start Date: 9/10/14 **Start Qty:** 8.00 *8*
Required Date: 9/10/14 **Req'd Qty:** 8.00 *8*
Reference:

Accept *N900040100*
Setup Start *NS1*
Stop *NS2*
Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC21- Final Inspection - Work Order Release	0.00							
210									
QC	**Memo**	0.00							
Quality Control									

MJS 14-11-14

MF 14-11-14

Picklist Print

September-11-14 11:56:03 AM

Work Order ID: 124143

124143

Parent Item: D3488-042

D3488-042

Parent Item Name: Blade Fitting RH

Start Date: 9/10/14 **Required Date:** 9/10/14

Start Qty: 8.00 **Required Qty:** 8.00

Comments: IPP Rev:A New Issue 06-02-28 JLM
IPP Rev:B As per Rev B 06-03-30 JLM
IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS7-1032-225	AELS8-1032-225	Purchased	No				Each	544.0000	**	~~32~~ 4			
ALS7-1032-225 Insert													

Location	Loc Qty	Loc Code
FG	80	
118520	80	M130565
FP001	391	
m128649	391	
ST280	73	
m128179	73	

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6103-003		Manufactured	No				Each	32.0000	**	8			
D6103-003 Round Billet, Aluminum													

Location	Loc Qty	Loc Code
MAT043	32	
113646	12	
122543	20	

124222

8

*Bushing

M7075 T3 R 1.000

M127647

(Not pulled off the system)

0.500" J.C.-L. | M.A

14/11/10

DART AEROSPACE LTD	Work Order:	124143
Description: Blade Fitting, RH / Turning Detail for D3488-1/-2	Part Number:	D3488-2
Inspection Dwg: D3488 / DSK101 **Rev:** B / D		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
Ø2.150	+/-0.005	2.149	✓		Mic	PAD-04
Ø2.780	+/-0.005	2.780	✓		"	"
Ø3.125	+/-0.010	3.123	✓		VERN	PAD-12
Ø3.346	+/-0.010	3.346	✓		VERN	L-10
0.125 x 45°	+/-0.010 x +/-0.1°	.125	✓		"	PAD-12
8.000	+0.030/-0.000	8.012	✓		"	CNC-02
9.250	+/-0.010	9.249	✓		"	"
0.188	+/-0.010	.189	✓		"	PAD-12
R0.032	+/-0.010	.032	✓		Rad G	
R0.062	+/-0.010	.062	✓		"	
Ø0.297	+0.005/-0.001	.300	✓		VERN	PAD-12
Ø0.430	+/-0.010	.434	✓		"	"
0.100	+/-0.010	.104	✓		"	"
0.125	+/-0.010	.130	✓		"	"
2.620	+/-0.010	2.623	✓		"	CNC-02
3.500	+/-0.010	3.500	✓		"	"
1.005	+/-0.010	1.005	✓		"	"
Ø0.484	+0.005/-0.001	.486	✓		"	PAD-12
1.180	+/-0.010	1.180	✓		"	"
3.150	+/-0.010	3.150	✓		"	"
3.070	+/-0.010	3.069	✓		H-G.	31006
R0.063	+/-0.010	.063	✓		Rad G	

DART AEROSPACE LTD	Work Order:	124143
Description: Blade Fitting, RH / Turning Detail for D3488-1/-2	Part Number:	D3488-2
Inspection Dwg: D3488 / DSK101 **Rev:** B / D		Page 2 of 2

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	.508	✓		gage pin	
0.750	+/-0.010	.747	✓		Height	gage
1.500	+/-0.010	1.497	✓		↓	
11.18	+/-0.030	11.176	✓		↓	
R0.062	+/-0.010	.062	✓		Radius gage	
0.125	+/-0.010	.125	✓		Jesn LP-OP	
0.590	+/-0.010	.589	✓		Height	gage
0.793	+/-0.010	.797	✓		↓	
1.351	+/-0.010	1.352	✓		↓	
1.317	+/-0.010	1.310	✓		↓	
1.802	+/-0.010	1.802	✓		↓	
Ø 0.496	+0.000 -0.001	Ø 0.496	✓		Caliper	JCL-08

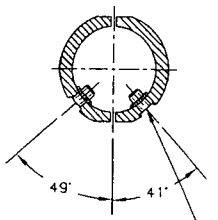
Measured by:	DAS 40
Date:	14/10/13

Audited by:	DAS 37
Date:	14.11.11

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-042	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM	

J.C.L. / D.A
14/11/10

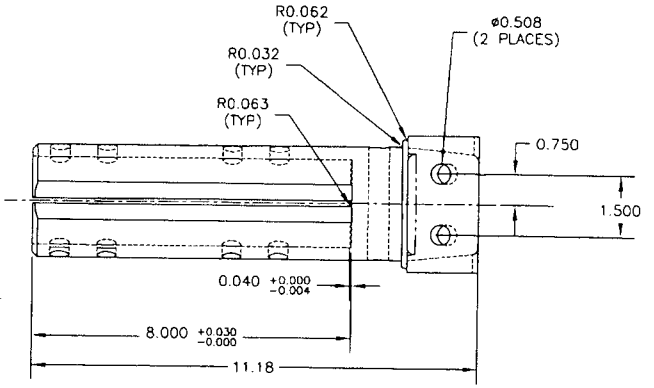


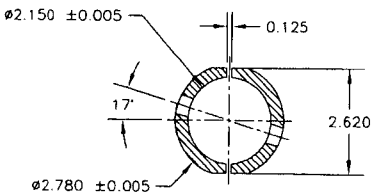
SECTION B-B

Ø0.297
C'BORE Ø0.430 x 0.100
INSTALL ALS4-1032-225 (OR AKS4-1032-225
OR ALS7-1032-225 OR AKS7-1032-225)
INSERTS AFTER FINISH
(4 PLACES)

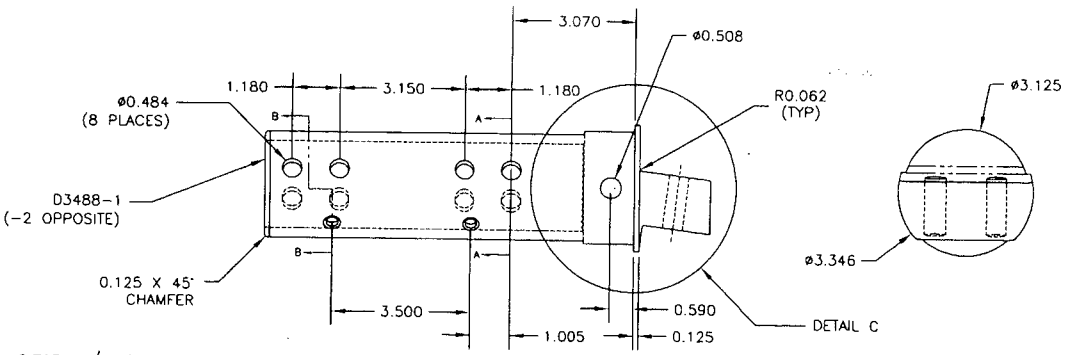
4

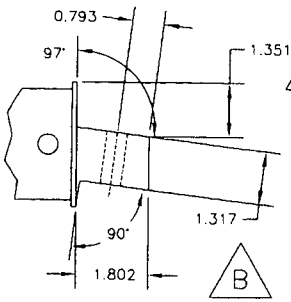
124143 MCJ
14-09-12





SECTION A-A





DETAIL C

D3488-041 SHOWN (D3488-042 OPPOSITE)

RELEASED
06.03.15 PH
PER QS
ECN #737

D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST

QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X		D3488-041	BLADE FITTING ASSEMBLY (LH)
	X	D3488-042	BLADE FITTING ASSEMBLY (RH)
1		D3488-1	BLADE FITTING (LH)
	1	D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

D3488-041/-042 BLADE FITTING

1) MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
2) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1
POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
3) BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
4) INSTALL INSERTS AFTER POWDER COAT
5) ALL DIMENSIONS ARE IN INCHES
6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE

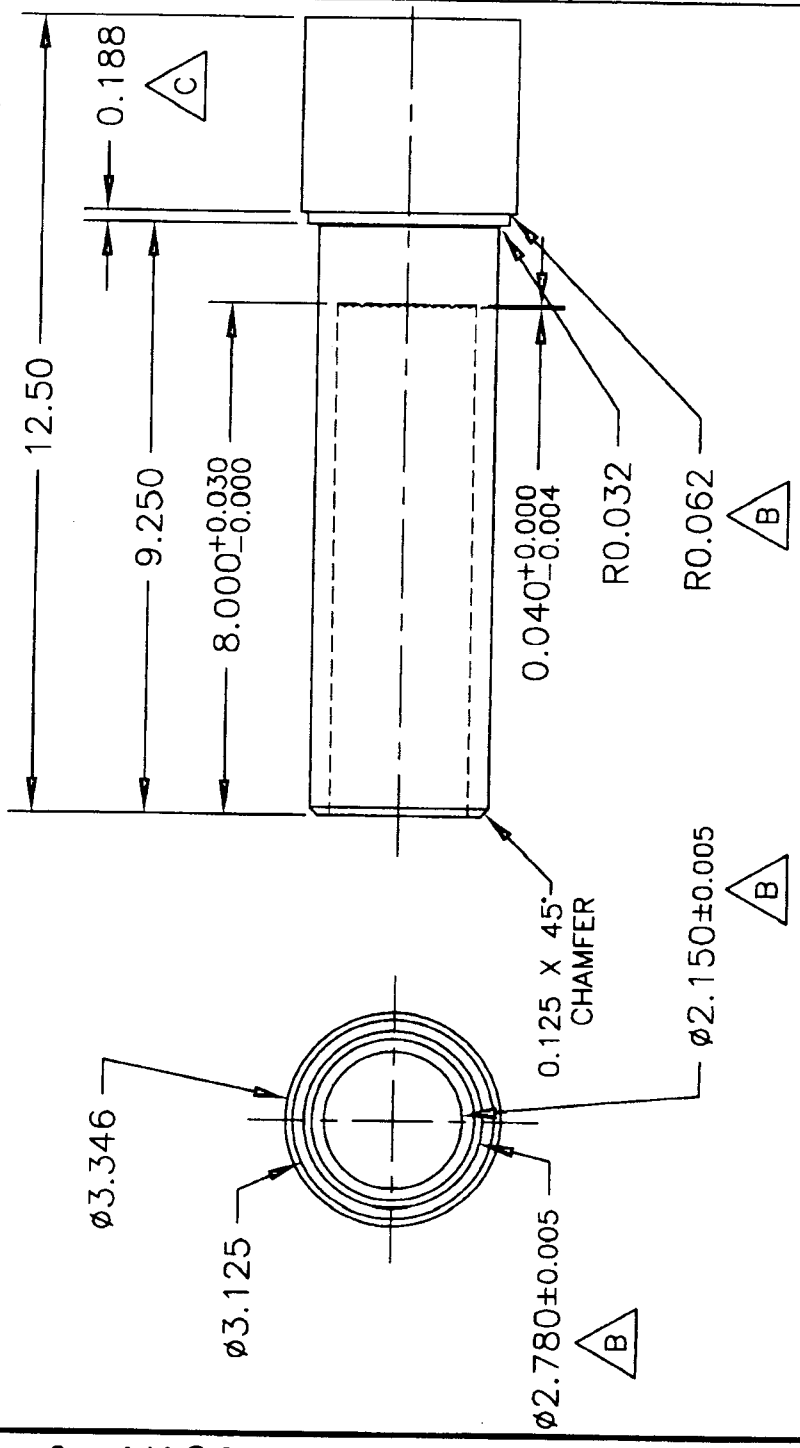
DESIGN PH	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED	APPROVED	DRAWING NO. D3488	REV. B
DATE 06.03.15		SHEET 1 OF 1	
		TITLE BLADE FITTING	SCALE 1:3

DESIGN	DRAWN BY	DART AEROSPACE USA, INC.
PH	PH	PORT HADLOCK, WA
CHECKED	APPROVED	DRAWING NO. DSK 101 REV. D
		SHEET 1 OF 1
DATE 06.05.09		TITLE D3488-1/-2 TURNING DETAIL SCALE 1:3

A	05.12.21	NEW ISSUE
B	06.03.02	ADD TOLERANCES AND RADIUS
C	06.04.17	0.188 WAS 0.125
D	06.05.09	REMOVE DIAMETER FOR CHAMFER

ck 05.09 PH

12-09-12 MCS



DSK 101

1) MATERIAL: MAKE FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
2) FINISH: NONE
3) BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
4) ALL DIMENSIONS ARE IN INCHES
5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D350-636 REV. J AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D350-636 REV. 3

REF FAA STC: SR00646SE
REF TCCA STC: SH99-7
REF EASA STC: EASA.10033942
REF BRAZIL STC: 2009S05-01

1.0 Purpose

It has come to DART's attention that the fit between the 12 mm Bolt required to fasten the aft most float mounting bracket of the Aerazur Floatation System to the existing provisions in the DART Skidtubes may be too loose. In such cases, it is acceptable for the installer or maintainer to proceed with the following steps:

2.0 Blade Fitting Rework

2.1 Locate Ø0.508in (12.9mm) hole in the D3488-041/-042 Blade Fittings and enlarge to Ø0.610in (15.5mm), then ream to Ø0.626in +0.001in/-0.000in (15.5mm +0.15/-0) as shown in Figure 1 of this Service Instruction.

2.2 Deburr and touch up finish in accordance with Chapter 5 of ICA-D350-636.

3.0 Bushing Fabrication

3.1 Fabricate qty(1) bushing for each Blade Fitting Assembly in accordance with Figure 2 of this Service Instruction and to the following material specifications: 7075-T73 (or 7075-T7351/T73510/T73511) round bar per AMS-QQ-A-200/11 or AMS-QQ-A-225/9.

3.2 Ensure the bushings can be installed into the holes that have been reworked on the D3488-041/-042 Blade Fitting Assemblies: the edges of the bushing should not protrude from the surface of the D3488-041/-042 Blade Fitting Assemblies. Adjust length of bushings to clear as required.

4.0 Installation

4.1 Bond bushings to the D3488-041/-042 Blade Fitting Assemblies using Proseal 890 Class B or AMS-S-8802 Class B sealant or 3M DP460 Scotch-Weld Epoxy Adhesive in accordance with the manufacturer's instructions. Ensure the inside of the bushings are free from sealant or adhesive. Refer to Figure 3 of this Service Instruction.

4.2 Allow sealant or adhesive to cure in accordance with the manufacturer's instructions.

4.3 Install the reworked D3488-041/-042 Blade Fitting Assemblies in accordance with Chapter 3.5 of IIN-D350-636 or Chapter 32.4 of ICA-D350-636.

5.0 Weight and Balance

There is a negligible weight change associated with this modification.

REV.	DESCRIPTION	BY	DATE
A	NEW ISSUE	MB	14.10.20

DESIGN		DART AEROSPACE USA, INC. KENT, WA	
DRAWN			
CHECKED		DRAWING NO. DSI 9711	REV. A SHEET 1 OF 2
MFG. APPR.			
APPROVED		TITLE BLADE FITTING REWORK	SCALE NTS
DE APPR.			
DATE	14.10.20		

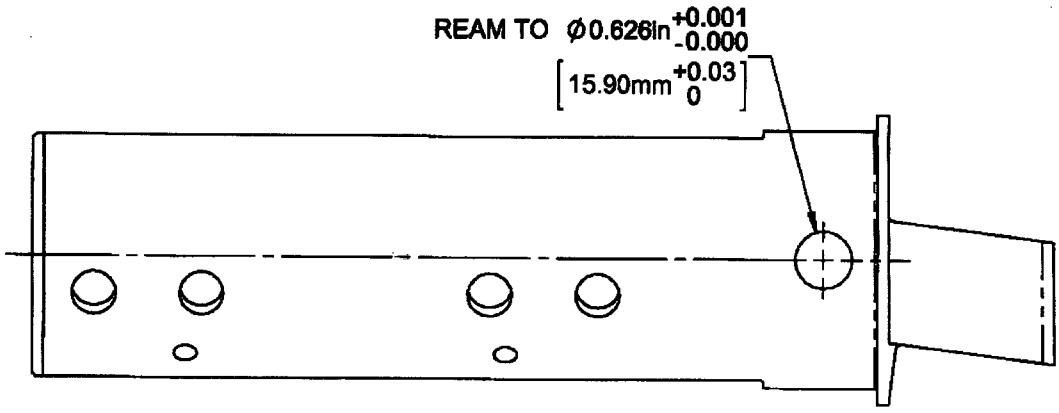


FIGURE 1: Blade Fitting Assembly Rework
(D3488-042 Shown, D3488-041 Similar)

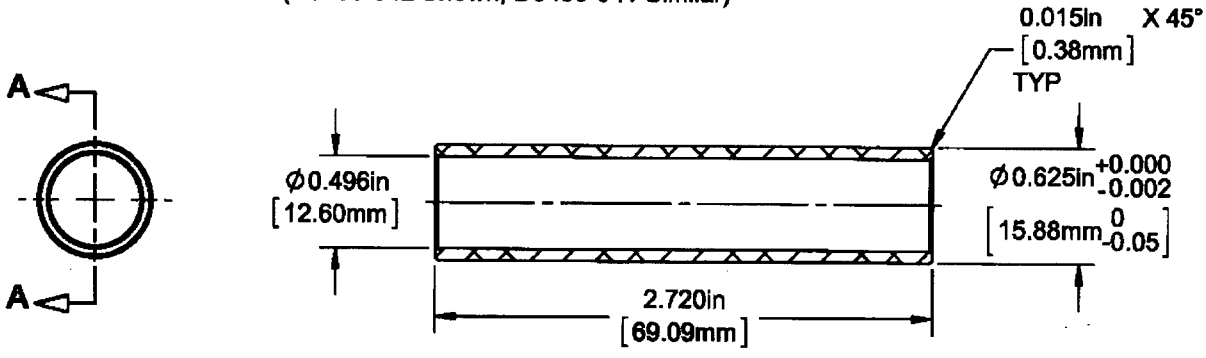


FIGURE 2: Bushing Detail

SECTION A-A

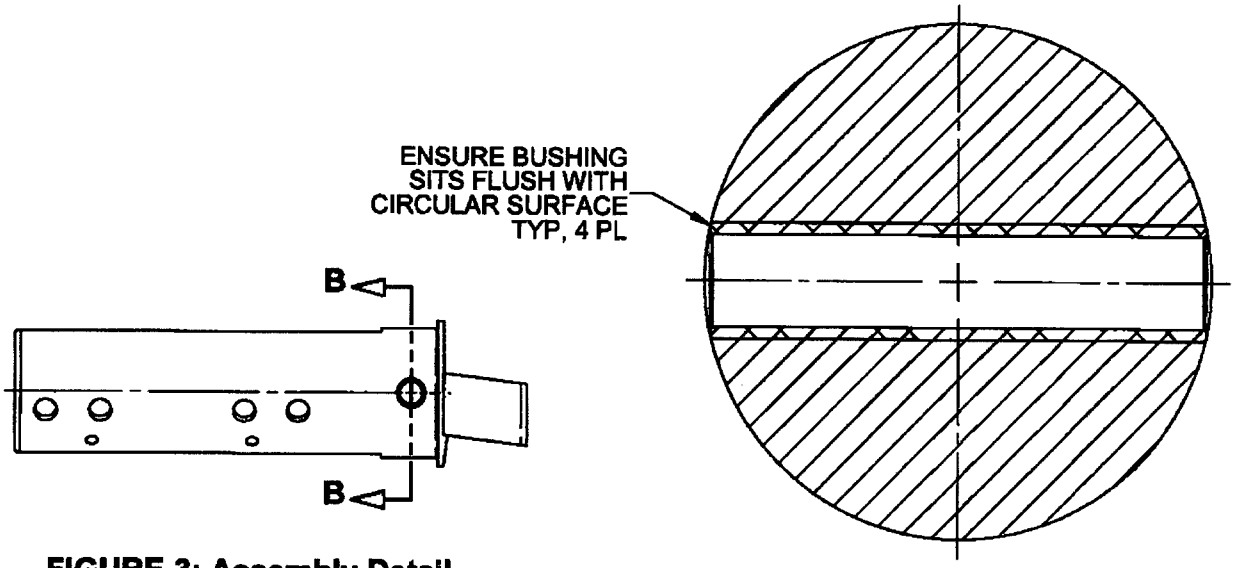


FIGURE 3: Assembly Detail

SECTION B-B
SCALE 4X

DESIGN		**DART AEROSPACE USA, INC.** KENT, WA	
DRAWN			
CHECKED	ASS	DRAWING NO. DSI 9711	REV. A SHEET 2 OF 2
MFG. APPR.	N/A		
APPROVED		TITLE BLADE FITTING REWORK	SCALE NTS
DE APPR.			
DATE 14.10.20			

Marc Bellavance

From: David Shepherd
Sent: November-11-14 4:11 PM
To: Marc Bellavance
Cc: Jean-Luc Menard
Subject: RE: Info

Marc,

I think the small interference fit is ok.

Regards,
David

From: Marc Bellavance
Sent: November-11-14 1:46 PM
To: David Shepherd
Cc: Jean-Luc Menard
Subject: RE: Info
Importance: High

David,

Guillaume came to see me re this rework scheme on the blade fitting and he tells me that the bushings were press fitted with a 0.0005" interference.

Your email below states not to press fit the bushing however, considering the small interference, would this be acceptable to you or not?

Please advise.

Thanks,
Marc

From: David Shepherd
Sent: October-17-14 12:55 PM
To: Marc Bellavance
Cc: Jean-Luc Menard
Subject: RE: Info

Marc,

I am OK with a tight fit on the bushing, not a press fit. I think we should write up a DSI that allows the operator to open up the hole and install a bushing. The DSI should call up the material and dimensions for the bushing so that we don't need to create a drawing for this. We are doing the work on behalf of the operator.

Regards,
David